

THE
H O N O U R
AND
A D V A N T A G E
OF
A G R I C U L T U R E.

BEING THE

Twelfth DISCOURSE of the Eighth
Volume of FEIJOO's Works,
Feijoo of Montenegro (Blaise Germain)
Translated from the SPANISH.

By a FARMER in *Cheshire.*

[Tolson, of Balesworth]

L O N D O N,
Printed for R. and J. DEDSLEY, in *Pall-mall.*
MDCCLX.

THE

H TO THE CHURCH

The Prince and Wales

A. D. V. A. N. T. A. G. H.

THE following translation from
the Spanish being published
with a view to give pleasure and profit
to all the lovers of Agriculture in the
British dominions; to whom could I so
properly address it, as to your Royal
Highness.

The sweets of Peace, and the
triumphs of war, are evidently built upon
the happy effects of Industry, from
thence, Industry, Commerce, Riches,
and Haps are ultimately derived.

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Your princely Father had a very great
and true taste for it: Your Royal Grand
father encouraged it by his example, and
your Royal Highness to encourage it
more.

To his ROYAL HIGHNESS

The Prince of WALES.

S I R,

THE following translation from the *Spanish*, being published with a view to give pleasure and profit, to all the lovers of Agriculture in the *British* dominions; to whom could I so properly address it, as to your Royal Highness?

The sweets of Peace, and the triumphs of war, are evidently built upon the happy practice of Husbandry; from thence, Industry, Commerce, Riches, and Happiness are primarily derived.

Your princely Father had a very great and true taste for it; Your Royal Grandfather encourages its Professors; and as your Royal Highness so eminently pro-

mises to inherit the virtues of all your great ancestors; may a knowledge and love of Agriculture, find an early place amongst the useful and ornamental sciences which shall adorn your Mind.

Your Royal Highness will, possibly, find more leisure to favour this art, than most other Princes, as his Majesty will probably reap all the Victories in the fields of War; and the military Harvest of the last Year, will leave the milder arts of Peace alone, to be cultivated by your Royal Highness and his Successors.

I am,

Your ROYAL HIGHNESS'S

most dutiful and

devoted Servant,

The TRANSLATOR.

THE
HONOUR and ADVANTAGE
OF
AGRICULTURE:

BEING THE
Twelfth DISCOURSE of the Eighth Volume of
FEIJOS's Works.

SECT. I.

IF Mankind could once agree, in setting a just and true Estimation upon human occupations, and employments; Honour and Profit would soon almost cease to be distinct attributes. For, if we view things in the light of reason, that which is most useful to the Publick, is the most honourable; and so much the more honourable, in proportion to its utility. The Service of God in the first place,
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and secondly, that of the Republick should regulate our Estimation, or Disestimation, both of things and men. In my opinion, the most contemptible of all animals, is a Man, who is of no use in the world ; whether He is rich or poor, high or low, noble or plebeian. What value can I possibly set on certain noble Apparitions, splendid Cyphers, that do nothing all their lives, but walk the Park ; crowd assemblies, and squander the Estates left them by their ancestors ? It is true, I conform myself to the rest of the World, who, by common consent of Custom, pay them the external homage of Civility, void of all intrinsick real respect. I look upon Nobles, who are such by birth alone, as so many Statues, representatives of such of their glorious ancestors, who by their virtues, and heroick exploits, had acquired honours for themselves, and their posterity ; and in that light I reverence them, that is, meerly as Images, which
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put me in mind of the virtues of their forefathers; by which means, my veneration is directly paid to the Originals, and not to the Images themselves. All Adoration paid to them, for what they are, and not for what they represent, as is commonly practised, seems to be a species of political, as much, as it would be of theological Idolatry, to adore the image of the Deity, with a devotion, absurdly centering in the image alone; though only due to the Deity it is meant to represent.

On the contrary, I honour for himself, or for his proper merit, that Man, who is of real use and service to the Publick, whether his birth be illustrious, or obscure; and I likewise honour the profession, in which He serves his country, with more or less reverence, in proportion to its greater, or less utility to the publick, without troubling myself about the general estimation set upon it by Mankind, of high or low,

honourable or degrading, brilliant or obscure.

This being the true conception which the nature of things inspires, it follows from thence, that there is scarcely any Art or Employment worthy of more honour, than that of Agriculture.

SECT. II.

EVERY thing capable of Honour, is augmented by honour; or receives new Lustre from Antiquity. Kingdoms, Cities, Families, even religious Orders boast (not without some vanity) of this Prerogative; even many of those things, whose value is depreciated by time, become still more respectable, as they are more ancient; as Men, who though old age impairs their Powers, it increases their Respect and Authority. So a consular Medal of Copper
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(the old Roman coins of the times of the Consuls are so called) is at this day of more value, than modern money of more precious metal.

What Art or Science can compare with Agriculture for Antiquity? None, doubtless, for it is as ancient as Man. When God made Adam, He placed him in Paradise, that he might cultivate it, and guard it: *Ut operaretur, et custodiret illum.* To cultivate the earth, was the first occupation and the first business of Man.

This incontestable antiquity is attended by two glorious circumstances; the first is, that Agriculture is the only art, which had its origin in Man's first state of Innocence; other arts arose, after the world had been polluted by sin. The second is, that men were the inventors of all other arts; God himself instituted Agriculture. This is manifest from the holy writings; that

Adam did not of his own accord apply himself to the cultivation of the earth; but by appointment and order of the most High. *Tulit ergo Dominus Deus hominem, et posuit eum in Paradiso voluptatis, ut operaretur, et custodiret illum.*

S E C T. III.

THE second argument in favour of the Nobility of Agriculture is derived from the many great men, that have exercised this art. If we search into the remotest antiquity, we shall find, that the most illustrious of the first ages, were Husbandmen. This is an observation of father Cornelius a Lapide. Adam, says he, *a quo omnis nobilitas descendit, Abel, Seth, Noe, Abraham, Isaac, Jacob, omnesque viri prisce celeberrimi fuerunt agricolæ* (in cap. ii. Genes.)

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If we descend from those very ancient times, to others less remote; the *Roman* history presents us with famous instances to our purpose. Camillus, the great Camillus five times Dictator (which was the supreme Magistrature in *Rome*, and never conferred, but in times of greatest danger to the Republick) six times Tribune of the people, the Conqueror of the Antii, the Faliscans, the Veii, the Gauls, the Volscans, the Tuscans, and the Æqui, stiled the second Romulus, for having delivered his country, at the crisis of its total ruin from the invasion of the Gauls; Camillus, to whose honour his grateful country first erected an equestrian statue, this great and illustrious Personage was a Husbandman, not for amusement only, but by profession; and the same victorious hands that so often had defeated the enemies of his country, in the intervals of war, were employed in plowing the ground.

For which reason, Lucan speaking of him, writes, lib. i.

— *Et quondam duro fulcata Camilli*
Vomere.

Marcus Curius Dentatus, three times Consul, the Conqueror of the Samnites, of the Sabines, of the Lycanians, and, what is more than all, of the magnanimous Pyrrhus, the terror of the Romans, professed Agriculture. So likewise did Marcus Atilius Regulus, who was twice Consul, and many times Conqueror of the Carthaginians. So did the great Cato, whose name alone renders it unnecessary to give a more ample relation of his victories and triumphs. This great Hero (says Plutarch) laboured his ground with the same toil and fatigue, as the meanest of slaves, in company with his own; covered like them, with dust, naked in Summer, and cloathed in Winter, with rustick garments.

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We recite these few extraordinary examples out of many, for it had long been the practice in *Rome*, for the first Men in the State, to dedicate much of their time to Agriculture, as Cicero witnesses. *Apud majores nostros* says he, in his oration for Rosc. Amerin. *summi viri, clarissimique homines, qui omni tempore ad gubernacula Reipublicæ sedere debebant, in agris quoque colendis aliquantum operæ, temporisque consumpserunt.* Pliny confirms and even strengthens this authority, and says, *ipsorum tunc manibus imperatorum colebantur agri* (lib. xviii. cap. 3.) and Ovid (1 Fast.) says, it was very usual for great men to be called from the plow to exercise the Prætorial Dignity.

Jura dabat populis, posito modo Prætor aratro.

The case of Attilius Regulus is particularly worthy to be cited. One of
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the times he was made Consul, the messengers that were sent by the Republick to acquaint him with his Election, found him following the plow, and sowing of his ground. It is Cicero who relates this; *Profecto illum Attili-um, quem sua manu spargentem semen, qui missi erant convenerunt, &c. (ubi supra.)* In the same employment, (says Pliny lib. xviii. cap. 3.) was Ferranus found by the Messenger deputed to announce to him the honours the Republick had decreed him. *Serentem invenerunt dati honores Serranum.*

S E C T. IV.

AMONGST the same *Romans*, we find another remarkable article, reflecting great Honour on Agriculture, in the Appellations of several illustrious families denominated from the fruits of the earth; the objects of this art, or from things relative to them. The
Fabii,

Fabii, derived their name from Beans ; the Lentuli, from Lentil ; the Ciceros, from a pulse of that name. These surnames (says Pliny) were relative to one or other ancestor who had excelled in, or taught the perfect cultivation of, those different products. So the family of the Piso's were so named from the word Piso, which signifies to clean the grain from the Husk, as the Piloni, from the invention of the Pilum, an instrument to grind wheat.

S E C T. V.

THE fourth article to prove the nobility of Agriculture, may be taken from the many illustrious men, who have not thought it below their dignity, to write treatises about it. By illustrious men, we do not here mean, illustrious from wisdom and knowledge (though many of those wrote purposely on Agriculture, or at least in their

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other works mixed useful instructions about it) but we mean, men illustrious and renowned for their character, state and honours. Pliny mentions four Kings, who wrote upon the subject; an Honour which I believe none of the professors of any other art or science can boast of. The first was Hieron King of *Sicily*. There were two of this name: though Pliny does not distinguish them; yet from other authors we know, that it was the second, a wise, prudent, and valourous Prince. The next was Attilus, king of *Pergamus*. The third Philometor, likewise king of *Pergamus*. From hence I infer, that though Mr. Rollin in the tenth volume of his ancient history lib. xxii. cap. 1. confounds these two in one, because, as I imagine, one of those Attalus's, kings of *Pergamus*, had for surname, or second name, that of Philometor; yet, as Pliny mentions Attalus and Philometor, as two kings, and different writers, we ought to believe,

lieve, that He that Pliny calls Attalus is one of the other two Kings of *Per-gamus* of that name, distinct from him, furnamed Philometor. The fourth was Archelaus, King of *Cappadocia*.

The same author after these four Kings, mentions two Admirals; who likewise wrote about Husbandry. One of them, the famous Xenophon illustrious in arms, literature, and eloquence. The second, Magon, a *Carthaginian* Commander, whose works the *Romans* found at the taking of *Carthage*; and the Senate set so great a value on them, that when they were distributing whole libraries, among the little princes of *Africa*, they reserved eight and twenty volumes of Magon's works for themselves, and appointed some *Romans*, skilled in the *Punick* Language, to translate them into Latin.

The honour that Agriculture has possessed, in being the object of the studies

studies of crowned heads, is more worthy of the attention of the *Spanish* nation, than of any other; a *Spanish* King, called Habides, if we believe Trogus Pompeius, or his abridger Justin, was, at least in our Peninsula, the first inventor of Agriculture; *Boves primus* (says Justin) *aratro domari frumentaque sulco serere docuit, et ex agresti cibo, mitiore vesci.* Father Lewis de la Cerda recollecting this passage from Justin, in his translation of the first book of the *Georgics*, after saying, that it was not a *Grecian*, nor the fabulous Goddess Ceres, (who, some think, was a real ancient queen of *Sicily*,) but our own King Habides, who taught this useful art to the *Spaniards*, adds, in order to insinuate to the whole nation the particular obligation, which, upon this account, they lie under, to esteem, and promote Agriculture; that it is our glory, that we are not indebted to any foreigner, for so great a benefit; but to a prince of our own country.

Itaque

Itaque proprio invento gloriamur, non aliunde emendicato.

SECT. VI.

THE fifth Title, on which we found the nobility of Agriculture, is, on the high estimation it obtained in ancient times, and which, at this day, it possesses in some of the most flourishing nations of the world. We have already given sufficient testimony, how much the *Romans* honoured this art: nor were the *Assyrians*, or *Persians*, behind the *Romans* in this point. The *Greeks* deified Ceres only because she taught them Agriculture. The *Egyptians* exceeded them all, they worshiped the *Nile*, as a Deity, to whom they attributed the fertility of their lands. Plutarch, Heliodorus, and many others, say, that the *Egyptian* God Osiris is no other, than the *Nile*; the same Heliodorus testifies, that the *Egyptians* not only worshiped the *Nile*

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as a Deity, but as the supreme of all the Deities: and, in Athæneus, Parmenio Byzantinus gives the name of *Egyptian* Jupiter to the *Nile*. Such honours did they pay that river, upon account of his overflowings, which were so beneficial to Agriculture.

Allowing Osiris, agreeable to the general opinion, to have been an ancient King of *Egypt*, deified by that superstitious nation, this alone testifies the high veneration, they had for Agriculture, who worshiped that King, who first taught them the art. So Tibullus sung, lib. i. eleg. 8.

*Primus aratra manu solerti fecit Osiris,
Et teneram ferro sollicitavit humum.
Primus inexpertæ commisit semina terræ,
Pomaque non notis legit ab arboribus.*

Correspondent to this, is the Devotion the *Egyptians* paid to the Ox, as a symbol of Apis or Serapis, an animal of principal use and service in Agriculture.

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At this day (though free from the superstitious part) the wisest nations equally honour Husbandry. Mr. Salmon, in his third volume of the present state of the world, speaking of *Siam*, says, that the Monarch of that country, once a year, puts his hands to the plow, for an example to his subjects.

The regard the *Turks* have for Agriculture may be inferred, from what we read in the continuation of the *Dutch Gazette*, of the 3d of *August* 1736, wherein is related the ceremony, with which War was declared at *Constantinople*, against *Russia*, the 2d of *June* in that year. All the trades, to the number of seventy three, assembled in the great square of *Meidan*, and from thence proceeded in procession to the *Seraglio*, to be reviewed by the Sultan. What makes for our purpose is, that amongst all the crafts, Agriculture had the precedence, and marched before all the others, represented by a man driving

C a plow

a plow drawn by two oxen, and scattering seed on the ground. The *Turks*, though *Barbarians* with respect to religion, are very sagacious in politicks, as we have elsewhere hinted, and the preference they give to Agriculture before all the other arts, is of great weight to confirm this opinion.

In the great empire of *China*, where the Laws of good oeconomy are in their greatest lustre, and where the merits of individuals are appreciated solely by their utility to the publick; Agriculture must necessarily be held in the highest estimation; so, in fact, it is. It is the constant practice in that country, continued to this time, that on an appointed day every year, in the beginning of the spring, the Emperor, accompanied by twelve of his Grandees, goes out to cultivate the ground, and taking a plow in his hand, and driving it, sows five kinds of the most useful grains, *viz.* wheat, rice, beans, com-

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mon millet, and another species of millet, called by them Cao-leang. The twelve Grandees assist the Emperor in this labour; and in all the provinces of the empire, the *Mandarins* do the same. The present Emperor, upon his accession to the throne, performed this ceremony with great solemnity, accompanied by the princes of the blood; and nine presidents of the supreme courts of justice.

This high estimation of Agriculture is derived from the same origin, that gives us *Spaniards* reason to honour this art; that is, upon account of one of their ancient Emperors, called Chin-Nong, having been the first who taught them tillage: it was propagated and increased by their having had two successive Monarchs, both of them, actually taken from the plow; to sway the imperial sceptre. The history of the first of these is too remarkable to be omitted, as his election manifests, in a high light, the zeal of the Emperor,

who chose him, for the publick good ; the candour and disinterested moderation of a prime minister, and the virtue and great capacity of a rustick. Though my kind readers may look upon this relation, as a digression, yet I flatter myself, they will pardon it, for the moral it contains : let the severer criticks cavil as they may, I shall not, on their account, wave any opportunity to promote virtue in my writings, by setting before them such great examples. Happy shall I be, if the virtuous approve of them, though the criticks should condemn them. That part of the narration which is dotted with commas in the margin, will be found distinguished in the same manner in father Duhalde's history of *China*, vol. ii. p. 68. which shews it to be literally copied from the *Chinese* books.

Yao, an Emperor most highly celebrated amongst the *Chinese*, not so much on account of the length of his reign,

reign, as for his wisdom, prudence, and zeal, and for his having established the various courts of justice, which subsist at this day, being desirous, towards the end of his long reign, to ease himself of the weighty load of government; conferred with his principal ministers, upon the subject of the election of a successor. They proposed to him his eldest son, as the fittest person. But the emperor, who did not approve of his genius nor disposition, and being determined to place upon the throne, the person fittest for the government, without any respect to consanguinity, broke up the conference without coming to any determination, and after having meditated for some time, upon so arduous a business, he fixed his eyes on one of his most faithful ministers, and calling him to a private conference, he said to him, “ You are prudent,
 “ virtuous, and of much experience,
 “ therefore I think, you will worthily
 “ fill the post I am in, and which I
 “ destine for you. Great sir, answer-

“ ed the minister, I know myself to
 “ be entirely unworthy of so great an
 “ honour, neither do I profess the qua-
 “ lifications necessary for so high a sta-
 “ tion, and one so difficult to execute
 “ in all its parts: but since your Ma-
 “ jesty seeks a person worthy to be
 “ your successor, and capable to pre-
 “ serve the peace, justice, and good
 “ order you have established in your
 “ dominions, I will tell you sincerely,
 “ that, amongst all your subjects, I
 “ know not any one more capable, than
 “ a certain young husbandman, who is
 “ yet a batchelor. He is no less the
 “ love, than the admiration of all that
 “ know him, for his virtue, prudence,
 “ and the equanimity of his conduct in
 “ so low a fortune; and in the midst
 “ of a family, where he tolerates the
 “ ill humour of a most unreasonable
 “ father, and the furious follies of a
 “ weak and rash mother, with a most
 “ astonishing patience. His brothers
 “ are quarrelsome, and hot-headed,
 “ and

“ and have a ferocity in their tempers,
 “ which nobody hitherto has been able
 “ to endure. He alone has had the ad-
 “ dress, to find, or rather to introduce,
 “ peace into a company of such un-
 “ tractable tempers. It is my opinion,
 “ Great sir, that a person, who in a
 “ private station can conduct himself
 “ with such prudence, and who join-
 “ ing to the sweetness of his temper, a
 “ great dexterity, and indefatigable
 “ application, is the most capable to
 “ govern your empire; and to maintain
 “ the wise laws, you have so happily
 “ established.”

Yao was agreeably affected with the
 modesty of his minister, that rejected
 the crown, and with the account he
 had given him of the young country-
 man; he ordered him to be sent for
 to court, and to reside there. He
 gave him various employments, and ob-
 served his conduct and behaviour, for
 some time. At length, finding him-

self oppressed by years, he called him,
 and said to him ; “ Chum, (that was
 “ his name) I have proved your fidelity,
 “ that I might be certain you would
 “ not deceive my hope ; and that
 “ you would govern my people with
 “ prudence. From henceforth there-
 “ fore, I delegate to you, all my
 “ power, use it more like a father,
 “ than a master, and never forget, that
 “ I elect you for Emperor, not only
 “ to rule your subjects, but to protect
 “ them, to love them, and assist them,
 “ in their necessities. Govern them
 “ with the equity and justice, they ex-
 “ pect from you.” How beautiful a
 lecture for all Sovereigns !

The Emperor Yu, who succeeded
 to Chum, mounted the throne in the
 same manner, and from the same situa-
 tion. There were at that time great
 tracts of low land drowned by water ;
 and entirely lost to the publick. Yu
 found means to drain them, and so to
 dispose

dispose the canals, which emptied themselves into the sea, that, by means of their waters, he fertilized a large country. Moreover, he wrote several books of useful instructions in the art of Agriculture. These merits, joined to other great talents, incited Chum to elect him for his successor. Let what has been said, suffice for the Honour of Agriculture. Let us proceed to consider the advantages and profit of it.

S E C T. VII.

But where is the necessity to evince the utility of Husbandry? Who is ignorant of it? Yet were we to judge by the visible neglect, we might safely say, Almost all the world. I lament its neglect in *Spain*; because the negligence of *Spain* grieves me. The poetick Lamentations with which Lucan (in his first book of the civil wars) bewails the uncultivated State of that part of *Italy*, where he lived, are literally

rally applicable at this time to *Spain*;
where Lucan was born,

*Horrida quod dumis, multosque inarata per annos
Hesperia est, defunctæ manus pascentibus arvis.*

And we may fairly join to this lamentation of Lucan, that of Virgil, whom he emulated, (Georgic, lib. i.)

Non ullus aratro
Dignus honos, squalent abductis arva colonis,
Et curvæ rigidum falces conflantur in ensẽ.

This last verse of Virgil excites me to reflect upon the harmonick contrast, between the words of this profane writer, and what the holy spirit dictated to the pen of the prophet Micah. Virgil represents it, as the great infelicity of those times, that the instruments of Husbandry should be converted to those of war, that is, the sickles for reaping of corn, into swords; *et curvæ rigidum falces conflantur in ensẽ.* Micah celebrates, as a circumstance of great felicity under the pacifick government of the Law of Greece,

Greece, that the instruments of war were converted into those of Husbandry; that is, the swords, into Plow-shares; and the points of spears, into spades.

Et concident gladios suos in vomeres, et hastas suas in ligones (cap. iv.)

In reality, this is the fact. The most successful war is a great calamity, it is of much more consequence to a Republick, that its plains should be crowned with fruitful harvests, rather than ornamented with trophies of victory. The blood of the enemy is productive of famine, how much more that of the inhabitants? Mars and Ceres ever are discordant Deities. The Olive, symbol of Peace, is a most fruitful tree, and the Laurel, with which military conquerors are crowned, is a barren plant. When spades are converted into swords, the country is threatened with ruin; when swords are turned into spades, riches and abundance spread over the land. This reciprocal

ciprocal transformation of the instruments of the two arts, of Peace, and War, is a kind of figure in rhetorick; whose proper signification denotes the transmutation of the services, in the operations of one, and the other. Woe to those countries, where the Husbandmen are dragged from the plow to the camp. Happy that kingdom, where the soldiers quit their musquets to exercise the spade. But what? Are we never to have wars? I do not say so. They are but too often unavoidable, but sure, we may wage war without prejudicing (or at least very little) Agriculture. The means to do this, will be laid down in the following discourse. At present we proceed to manifest the utility of Husbandry.

I observe, that the most flourishing nations of antiquity were those, wherein industrious labour and Agriculture, flourished the most. We have already mentioned the great esteem Husbandry
was

was in, amongst the *Egyptians*: and whence, but from this source proceeded the immense riches of their Kings, the prodigious multitudes of their people, and the formidable power of that nation? What historians relate of the opulency of many cities in *Sicily*, especially of *Syracuse*, the magnificence of their buildings, their vast armaments, by sea and land, would be totally incredible; were they not attested by so many ancient authors. What funds had *Sicily* for all this, but the copious harvests which it reaped from their extraordinary attention to Agriculture? In effect, we may infer, how great the application of those islanders was to that art, when, as we have before hinted, we consider, that one of its most celebrated Kings thought himself well, and usefully employed, in writing a book of rules and instructions, for the better cultivation of land.

Rome

Rome owed her greatness to the same principles. Numa Pompilius, its second King, a man of great understanding and profound politicks, after dividing the *Roman* territories into separate districts, ordered an exact account to be given him of the condition they were in, with respect to the state of their culture. He summoned the Farmers to appear before him, and praised or chided them, according to their industry or neglect. The particular attention this Prince had to Agriculture, is manifest, from his inventing a Deity (the god Terminus) to preside over the Meres, and bounds of people's possessions. His worship was adapted to his function; the fruits of the earth alone were the only sacrifices made to him. Numa in private smiled at this Deity, the fabrick of his fancy. But however, this shews of what importance he considered Agriculture to be, when, in order to promote its blessings,

blessings in his republick, he persuaded his subjects to think, that they were bound by the duties of religion to attend strictly to it. Ancus Martius, the fourth King of *Rome*, and grandson to Numa, great in war, and in peace, and who seems to have taken his famous grandfather for his model in government, next to the sacred rites of religion, promoted with the greatest zeal the arts of Agriculture. We have already seen the particular estimation this science was in among the *Romans* during the Consular government. While *Rome* persevered in this important attention, she flourished, and became Mistress of the world, but as soon as Agriculture was neglected, and that ambition and a love of arms became the ruling passion of the State, her immediate decline menaced her total fall.

The people of *Israel* furnish us with another example, very suitable to our subject. The tract of country inhabited
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by the twelve tribes was very small, but the inhabitants were numerous, their military strength great, as was manifest, from their many glorious expeditions against fundry warlike nations, and though the powerful hand of the Almighty assisted them with extraordinary favour in various occurrences, yet all their victories were not supported by miracles. We are informed from the sacred history, that commerce did not flourish among the *Hebrews*, therefore we may reasonably suppose, they owed their power and successes to their application to Agriculture. One of the principal attentions of their legislator Moses (says our Calmet, Prov. c. xxiv.) had been to level all ranks, and to establish an equality of condition amongst that people. So that all, except the tribe of Levi, were employed in tillage; by which means, the land being thoroughly cultivated, produced fruits in abundance.

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As the *Greek* and *Roman* nations are allowed, preferably to all others, to have best understood the maxims and politics, most conducive to aggrandise a state; the opinion and judgment of those two nations, must have great weight in the present subject. It is observed by Janus Cornarus in his prologue to his twenty books of *Geoponicks*, that Varro and Columella reckon up about ninety authors that wrote treatises of Agriculture; the greatest number of which were either *Greeks* or *Romans*. This multitude of authors on the same subject, evidently demonstrate, how much those nations looked upon it to be a most interesting and useful subject.

Yet at this day, in *Rome*, in *Greece*, and all over *Europe*, men's ideas seem to differ very widely. More books are now published in one year in *Europe*, than were formerly in a century, much

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is wrote upon all subjects; upon Agriculture alone, very little. I am sensible that many of these books are well wrote, and very useful, but I cannot help lamenting, that among so many authors, none should treat of Agriculture; a subject, that is of such importance. The complaint of Columella is very applicable here (lib. i. ad Publ. Silv. in præfat.) this respectable author expresses his astonishment, that for all other arts and sciences, there should be so many Masters, Schools, and Academies, and not one for Agriculture: *Solares rustica, quæ sine dubitatione, proxima, et consanguinea sapientiæ est, tam discipulis eget, quam magistris.* And a little after, *Agricolationis neque doctores, qui se profiterentur, nec discipulos cognovi.*

S E C T. VIII.

IT may, in the first place, be objected to me, that books would be totally useless in this science, because the practisers of

of Husbandry, are men, but little given to reading, and for the most part, do not even know, how to read. I answer to that, that it is sufficient for their utility, that others read them, who may communicate the instructions and precepts contained in them, to the Farmer; by which he may receive knowledge and profit.

In the second place, it may be objected, that Agriculture is learned by experience, and ocular inspection of the practical part, the rules of which are transmitted down from father to son. To which I answer, that the mistakes and errors in husbandry are likewise transmitted in the same manner to posterity. This is but too true, Agriculture is no otherwise taught, than as has been said; which is the very thing that I blame; this manner of instruction being apparently very defective. Farmers are not usually men of much reflection or observation; they copy the

good and the bad practice, from their fathers, and adhere to it; unless they are assisted by some foreign light. This appears from various maxims, which they obstinately retain; though with the least reflection even their own daily experience might convince them, how erroneous they are. For instance, that the changes of the moon determines the state of the wind and weather, the vanity of which, we have in another place already spoke of.

In the third place, it may be objected, that many books are not requisite for the knowledge of the precepts of Agriculture, one, well written, would be sufficient; provided there were a number of copies. In *Spain* we have at least two. One wrote by Alonso de Herrera, and one by the Prior of the Temple. I answer, these are not enough, first, because there is a vast deal to be learned, more than those authors teach; as any body may easily

easily discover, who has ever considered with attention the innumerable occupations of a diligent husbandman, and compared them with the general precepts of those books. Secondly, a great part of the instructions contained in those two books are not applicable to all soils. Not only every province requires different rules, but even in one and the same county, it is necessary to vary them, according to the different qualities, aspect, and other circumstances of the ground. I knew a person, who cultivated a very beautiful garden according to the rules of the Prior of the Temple, and every thing he sowed, miscarried: though the same garden, before, and since, produced abundantly, by a quite opposite management.

Reason directs, that the care taken to teach any art, should be proportionable to its utility, that is, the more necessary the art, the greater care should

be taken, that many masters, and those good ones, should be appointed to teach it. If that is the case, how ridiculous, or rather lamentable is it, that dancing masters, musick masters, and singing masters should abound in such numbers, and yet not one master to be found, capable of teaching Agriculture, in any degree of perfection? Not only, without the knowledge of those arts, which serve merely for amusement, says Columella, in the place above cited, but even, without the pleading art; that is, without that methodical study, by which, men are educated to be judges, counsellors, attornies and notaries, there was a time, when mankind was happy: and might still for ever be so; but without Agriculture, men cannot only not be happy, but they cannot so much as subsist or live. *Namque sine ludicris artibus, atque etiam sine causidicis olim satis felices fuere, futuræque sunt urbes; at sine agricultoribus nec consistere mortales, nec ali posse manifestum est.*

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It is not long, since *Spain* partly felt the truth of that sentence, and was very near feeling it in its utmost latitude, I mean, that, from the neglect of Agriculture, we were very near to our ultimate ruin. But a little while ago, the *Spanish* nation saw itself in that miserable situation of the *Jewish*, which cost Jeremias so many tears, *omnis populus ejus gemens et quærens panem*. And had Heaven retarded but another Year, mercifully to hear our supplications: what would have been the consequence, but a total depopulation? Half of its inhabitants must have perished for want, and the other half must have deserted their country, to seek for sustenance. But *misericiordiæ Domini, quia non sumus consumpti*.

S E C T. IX.

HERE, my most eminent Mécenas, if you should have sufficient leisure from your great and incessant toils, to

cast an eye on these lines, I am prompted by the importance of the subject to venture to represent to your eminence, that, amongst the many weighty matters entrusted by our monarch to your care, none is more deserving of your gracious attention, than Agriculture; neither indeed do I know any, that merit the preference; unless it be those of religion and justice. These two secure the blessings of Heaven; That secures the fruitful products of the Earth. I cannot better represent to your eminence, the importance of Agriculture, than by availing myself of a beautiful allusion of that illustrious *Englishman*, John of *Salisbury*.

This wise prelate compares the body of the Republick, to that of man; describing its different parts in the following manner. Religion, says he, is the soul; the sovereign, the head; the council, the heart; the viceroys, the

the eyes; the military, the arms; the ministers, the stomach and intestines; and the labourers, the feet. And he immediately adds, that the head ought with particular vigilance to attend to the last, as they are liable, and subject to many afflicting accidents, and as they sustain and move the whole body.

Pedibus vero solo inhærentibus agricolæ coaptantur, quibus capitis providentia tanta magis necessaria est, quo plura inveniunt offendicula, dum in obsequio corporis in terra gradiuntur; eisque justius tegumentorum debetur suffragium, qui totius corporis erigunt, sustinent, et promouent, molem (lib. v. Policratici, c. 2.)

He repeats the same, in answer to the question, *Qui sunt pedes Reipublicæ, et de cura eis impendenda*, with the following words: *In his quidam agrorum ratio vertitur, qui terræ semper inhærent, sive in sationalibus, sive in consitiuis, sive in pascuis, sive in floreis agitentur.* What he afterwards adds, is most humourously applicable. When
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the Labourers are afflicted with misery and rags, the Prince or Republick may be said to have got the gout, which is an infirmity of the feet: *Afflictus namque populus, quasi principis podagram arguit et convincit.*

Most eminent Lord, *Spain* is very gouty. The poor feet of this kingdom suffer great pain, and are in so miserable, weak and afflicted condition, that they are scarcely able to support the body. I am not sure, if this maldy arises from the same cause, which the above mentioned author has before cited, who says, that when the stomach and intestines of this political body (the Ministers) devour and gorge much; innumerable, incurable infirmities are the consequence, which endanger the health, and threaten the ruin of the whole body: *innumerabiles, incurabilesque generant morbos, ut, vitio eorum, totius corporis ruina immineat.* The physicians in general agree, that the gout proceeds

proceeds from bad digestion in the stomach ; if this swallows in too much, it is plain it cannot digest perfectly. The mischief is, that the bad humours, which result from imperfect concoction, fall upon the poor feet, which suffer for vices they were no ways necessary to. But finally, the malady of the feet affect the whole body, as, while they are in affliction, and pain, the body must needs be motionless and weak : and at length, the evil attacks the very bowels, and vital parts ; and brings on the total ruin of the whole. *Ut, vitio eorum, totius corporis ruina immineat.*

S E C T. X.

OH ! How different is this age from the past ; unless we say, that *Spain* is very different from other countries, with regard to Agriculture. It is apparent, that Virgil pronounced Farmers
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to be a happy race of mortals, lib. ii.
Georgic.

*O fortunatos nimium, sua si bona norint,
Agricolae.*

So did Horace, Epod. Od. ii.

*Beatus ille, qui procul negotiis,
Ut prisca gens mortalium,
Paterna rura bobus exercet suis.*

Yet, at this time, what people so wretched as labourers in husbandry? What calamity are they exempt from? Other ranks of men are subject to but a small part of the inclemency of the seasons: All, except labourers, how poor soever they may be, have, at the least, a miserable cottage to shelter them a great part of the year: But labourers are for ever exposed to wind and rain, heat and cold. I confess these hardships are annexed to their station; and tolerable enough, when their daily labour affords them sustenance; cloaths to cover them; a habitation to shelter them; and a bed
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to rest their weary bones. It is true, I can only speak to my own knowledge of the condition and state of *Gallicia*, *Asturias*, and the mountains of *Leon*. In these countries, the Labourers suffer from hunger and bad lodging. A few rags cover their skin, or rather discover it, from the many rents and holes in them. Their cots are equally shabby, so much, that the wind and rain seem to be masters of the wretched house. Their food is a little black bread, with whey, or some poor vegetable; but all so scanty, that some of these poor creatures scarcely know what it is, to fill their bellies once in their whole lives. Add to these miseries, an incessant bodily labour, from sun rising, to sun sett. And let any body judge, whether these poor workmen do not pass their time, worse than those criminals, who are punished with the galleys. The celebrated poet laments the unpropitious destiny of the oxen, who plow the ground, for the profit of others.

others. *Sic vos non vobis fertis aratra, boves.* With equal propriety, may we lament the lot of those men, who follow the team; as they scarcely enjoy a greater share of the fruits of the earth they cultivate, than the cattle they drive. They sow, they reap, they thrash, and after all these labours, a new toil succeeds, the most mortifying of all; which is, to carry home the fruits of the earth, or the value of them, to the houses of the rich Landlord, leaving in their own huts, their wives, and children, full of sorrow and bathed in tears, *à facie tempestatum famis.*

But I lament the poor, who work, and hunger; whereas, I ought with greater reason to bewail the rich, who eat and cram, with the fruits of their labour. What says our Saviour by the pen of St. Luke? *Happy are the poor! Happy are the hungry! Happy are those that now weep!* And what remains for the rich and powerful, who abound
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in the good things of this world? Nothing, but lamentations: *Woe unto you that are rich; Woe unto you that are full; Woe unto you that now laugh.* Wherefore are those stiled happy, and these wretched? Because they, that at present are poor and miserable in this world, shall be proportionably happy, and abounding in all things in the next. And those who are happy in this mortal life, shall be unhappy in an eternal one. *Vae vobis divitibus, &c.* Terrible sentence! How can the great ones of the world hear it without trembling? Are all the rich and great in general thus lamented? Is their eternal infelicity in general thus decreed? The letter of the Evangelist we have cited, cannot be understood in any other sense.

But, already, Grandees of the world, when I look another way, I see a propitious ray of light approach, for your comfort. St. Matthew the Evangelist, repre-

represents Christ our Lord, preaching at another time on the same subject, that is, declaring who shall be the happy in another life, and amongst them he includes the merciful, *Beati misericordes*. Take courage then, all you that are rich, You are there included. The poor cannot be merciful, but in speculation; it is you that are rich, who, alone have power to exercise the virtue of practical mercy. Have courage then, I say, once again, for this sentence is directly addressed to the rich. But let none deceive themselves, it is only to those rich, who are merciful to the poor. All the rest are excluded from the kingdom of Heaven. Let them now revel, let them now enjoy the good things of this world, let them triumph, command, and abound in riches. But alas! all this will but make them eternally unhappy. *Væ vobis divitibus, quia habetis consolationem vestram*. That father of all mercy, and God of all consolation, has comfort for all. To the rich,

rich, he gives it them in this Life, to the poor, in that which is to come.

To this interesting consideration, which excites a general compassion for all the poor in general, may be added a special one, with respect to such as cultivate the earth. Mercy exercised on any class of poor, promises eternal happiness to the rich. That which is extended to poor labourers, assures the temporal happiness of a nation. Let it be considered, that a labourer, whose wages will not furnish him with sufficient to nourish, and cloath him reasonably, cannot work not even half so well, as one, that is well fed, and well cloathed; and that for many reasons. First, because he has, not only not equal; but very inferior strength. Secondly, because the little profit he gets by his work, makes him labour with despondence and despair. The third reason is, because from being badly lodged and worse cloathed, they

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tract many bodily infirmities, which oblige them to lose many days in the year. We see but too much of this, in our part of the country. It is commonly said, that workmen are healthier than those, who live more at their ease, but that is only true, of such labourers, who are tolerably well accommodated, those, who are miserably poor, are much more sickly than those, who lead a less laborious life; of which, I have daily experience.

S E C T. XI.

IT is therefore of the greatest importance, and even absolutely necessary to have a most particular attention to the condition of this poor honest race; to take every fitting means, to encrease their comforts, and to diminish their sufferings. But what are these means? It cannot be expected, that I should be able to specify them, nor the innumerable maxims, that might conduce to evince the utility of Agriculture in *Spain*. I
have

have not the necessary knowledge for so extensive an object, and if I had, I could not find room to communicate it; it is a subject, which to treat worthily, would require many volumes. The only scheme, that promises to be effectual, seems to be the establishing a Society, or Board, in the Capital, composed of some intelligent, qualified Husbandmen, from all the provinces of *Spain*; two or three from each, according to its extent. These should have regular meetings, to confer about, and to determine, what they shall judge to be most useful and convenient, as well in those general considerations, as, in those more particularly adapted, and suited to each province, to each district, to each production, to each occurrence, of scarcity or plenty, &c.

I do not mean, that these boards should determine the executive part. Their office might be confined to confer upon such points, as they might judge

to be of importance, and when they were agreed in their opinion upon any one, they should represent it to the royal council, or to some appointed minister, whom the King should be pleased to invest with power, to carry into execution, what the said society or board had judged proper and useful ; and in case a single minister should be thus charged with the executive part, he might likewise be president of the board, which would be highly proper, as by this means, he would be acquainted fundamentally with the reasons of their consultations, and would consequently, with greater knowledge, and efficacy, proceed to the execution of them ; besides, by his assisting at these assemblies, he would have an opportunity to become quite a master of the subject, which would enable him to form his opinions with solidity and judgment, on all occurrences.

I am highly sensible, how widely distant the proposal of this idea is from
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the execution. It is very natural, that some should look upon it, as chimerical, others as useless, and some, perhaps as noxious. Perhaps the first would have reason, possibly the second likewise; nay, it may be the third also; but it is likewise possible, that none of them all. My desire is, that this discourse may be the means of having this matter discussed, though it were only for amusement, and as a subject of conversation, amongst people of sense and zeal; in order, that they might consider of the benefits, or inconveniences of this idea, and of the properest methods to carry it into practice. If upon this first confused and tumultuary examination, it should meet with the approbation of the majority of the company, I should hope, that by their means, it might reach the attention of some of our principal ministers; who, upon being convinced of its utility, might for that reason, propose it to the Monarch.

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It seems to me, that even under the uncertainty of its good or bad effects, it ought however to be attempted. Because the expence of forming such a board is trifling; and in case, that experience should demonstrate its inutility, it would be easier dissolved than it was assembled. But should it be found to be really useful, the advantages that might be expected from it, would be very great, and the establishment and continuation of such a society, attended with so little expence, would neither be burthensome to King, or Country.

In order to give a clearer idea of this board, which I propose, I shall here specify some particulars of the many, which might be examined and determined at it, which will plainly shew how necessary such a society is; composed, as it would be, of intelligent members, who might decide and regulate

late those points I propose, as well as various others, which would offer.

SECT. XII.

IT is manifest that of late years the quantity of ground under Vineyards, has increased considerably, and that the growth of Bread Corn has diminished. In those countries where great quantities of corn used to grow, there now is much wine, and very little corn. But it is likewise manifest, that the Publick is evidently injured by this alteration. The scarcity of wine occasions little or no mischief to a kingdom; that of bread may ruin it, or unpeople it. I will suppose the case, that the Vintage all over *Spain* should be very bad, because in some places, the hail, in others, a blight had damaged the vines, and only here and there a vineyard had escaped. What would be the consequence? Wine would be dear, the poor would drink none, people of middling fortunes

would drink less, nobody the more would die upon this account, provided they were in other respects well nourished, and though it is not impossible that a few might sicken and die for want of wine, yet there is no doubt, but many more would have got sickness, and have died, from drinking it to great excess; if it had been plenty. So that with respect to bodily health, we should certainly have been no losers, and with regard to our spiritual health great gainers, indeed! What drunken bouts, what riots, what quarrels, what homicides, would be saved by a scarcity of wine?

But when bread is scarce, good God! how melancholy a scene! How horrible a theatre of woe is a nation! Nothing is heard, but lamentations, sighs, and groans. The villages are deserted, and the towns and cities are peopled by skeletons. Hunger is followed by sickness

ness, and sickness by death; and how many deaths?

*Plurima perque vias sternuntur inertia passim
Corpora, perque domos, et relligiosa Deorum
Limina.*

This passage of the poet is but too literal, as I myself have witnessed the dire effects of famine, in this city of Oviedo, when the whole principality suffered in the year 1710. Swarms of poor fell down dead, in the roads, in the streets, in the porches of the houses, in the churches; insomuch, that the church yards not sufficing for their interment, many were obliged to be buried in the fields.

Who, that considers the above, but must be convinced of the expedience of putting more land under corn, and less under vines? But in order to accomplish this, two things are essentially necessary: Much knowledge for the proper regulation of the method; and the authority of the prince, for the execution.

execution. With respect to the intelligent part, the concurrence of many knowing heads will be absolutely requisite; as no one man can possibly possess all the lights, necessary in this matter. The nature of the soils, that are under vines, must needs be known, in order to determine, which parcels of land should be appropriated to corn. In general, it might be decided, that such grounds, which produce but little or no wine, and that but of inferior quality, might be destined either to Wheat, Rye, or Barley, or some other eatable product. This latitude would be necessary, because possibly some of these soils might not suit Wheat, and yet might be kindly to the production of Rye, India Corn, Rice, Beans, Lentils, or other Pulses, &c.

S E C T. XIII.

To appropriate every soil to the production that would best suit it, would be a most valuable regulation. Therefore

fore the examination of this one article alone, would be of the greatest importance; as Virgil most wisely remarks (lib. i. Georg.)

*Ventos, et varium cæli prædiscere morem
Cura fit, ac patrios cultusque, habitusque locorum
Et quid quæque ferat regio, et quid quæque recusat.
Hic segetes, illic veniunt felicius uvæ:
Arborei fætus alibi, atque injussa virescunt
Gramina, &c.*

There is no doubt, but *Spain* would be much more fruitful, and the fruits of better quality, if the aspect and nature of the different soils were better considered, and each one sowed or planted with the species, that might best suit it; as that republick would be best served in all its offices, where each servant of the publick, was employed in the station, the most conformable to his natural genius and capacity. But it too often happens, that in the destinations of soils, as well as of men, there is but little consideration had in
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choice and preference. Who but sees that with regard to the consideration of soils, it is a matter most worthy of the greatest attention? And who is ignorant that this examination cannot be committed to the judgment of any one man, let his experience or understanding be ever so great? Therefore it is beyond all doubt, that this matter cannot be determined but by a society, or by a board of Agriculture, such as we have proposed.

S E C T. XIV.

PERHAPS there is no civilized country in the world, that receives so little benefit from the waters of its rivers, as *Spain*. In general, they run uncontrouled in their natural channels, whereas, by proper direction, in particular places, they might be rendered immensely profitable to the publick. The kingdom of *Egypt* so fruitful of corn, would not bear a single blade, if the water of the *Nile* were not conducted

ducted by innumerable canals, to fertilize the lands; such canals would not only contribute to fertility, but be of great use to prevent inundations, a most important benefit! In some countries the abundance, in others, the scarcity of water is hurtful; both of these injuries might be remedied by one, and the same prudent management.

It is true, works of this kind are costly, and require heads and purses to conduct them, that private people, much less farmers, cannot pretend to. The farmers could only give information of what parts of the country want water, and of the most contiguous rivers. How capable those waters might be, to be conducted for the benefit of the country; those skilled in geometry, and hydrostaticks, could alone properly judge of. And finally, the expence and cost must be born either by the Prince, or by the Publick, respectively
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to the territory intended to be benefited. All this might be brought about by application, and zeal for the publick Good.

S E C T. XV.

IT appears to me, that the transmigration of Labourers, from one province to another, in search of labour, and harvest work, is a matter, that wants some reformation. Many thousand *Galicians* go forth annually, to cultivate the Vineyards, and get in the harvest of sundry provinces in *Spain*. It is but just, that every one should work in his native country; either the *Galicians* who go into *Castille*, *Navarre* and *Andalusia*, have work to employ them at home; or they have not. If the first, let them labour at home, and not lose their time in wandering like vagabonds to other countries; if the second, let there be a regular mission of such of the poor of *Galicia*, as are more than sufficient for their home
cultiva-

cultivation; and let there be some colonies of these planted in various parts of *Spain*, where there may be great tracts of country uncultivated, for want of hands. This would lessen the number of robbers, which infest the mountainous and desert countries. The town of *Mudarra*, situated between *Rio-Seco*, and *Valladolid* is an example of the double utility of such colonies. This town having been founded by accident, at the feet of the mountains of *Torosos*, by a very small number of *Galicians*.

In the first place, I see it will be objected, that in some countries, there are not sufficient inhabitants to cultivate the land, and for that reason, they are under an absolute necessity to bring in Foreigners. In the second place, that though there are sufficient hands in the country, yet the *Galicians* work cheaper, and every body is at liberty to get their work done at the most reasonable rate.

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To the first I answer, that the Prince, using the high authority which he justly exercises, when the publick good requires it, may prevent this inconvenience, by limiting the extent of farms, that nobody may hold more land, than he or his labourers can cultivate, and for what shall be over and above of each territory, let poor labourers, who cannot find work at home, be called in. This division of farms may be so equitably made, that the natives may rather find their account in it. For as in no one part of the country, the lands are every where equally fruitful, the natives may chuse the most fruitful spots, leaving the others to the newcomers, by which means, the first will gain without greater labour better crops. This is not meerly a Platonick idea, as we know that the *Romans*, a people of consummate prudence in all parts of their government, took care to confine the possessions of particulars, in order
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to obviate the damage, which might result, for want of sufficient culture: So, says Columella (lib. i. cap. 3.) that it was criminal for a senator, to possess more than twenty acres of Land, each being regulated by the quantity a pair of oxen could plow in a day. It is true, that this regulation, in the days of the author, suffered some relaxation; for in another part, he laments, what we in *Spain*, at this instant, have reason to complain of; that is, that many proprietors occupied such large tracts of land, that they could not ride round them, and consequently must lie uncultivated. *Præpotentium qui possident fines gentium, quos nec circumire equis quidem valent, sed proculcandos pecudibus, et vastandos, ac populandos feris derelinquunt.* Pliny says, that the wide extended Farms were the ruin of *Italy*, *Verumque confitentibus latifundia perdere Italiam.* With greater reason, we may affirm the same of *Spain*.

To the second; I say the remedy is easy, the Justices in every division may settle the price of day labour, and oblige the peasants to work. Hence it may happen, that they will do less work, than they are really able to do, but there will be no great difficulty to watch the idlers, and to punish them, either by deducting from their wages, or by some other penalty.

S E C T. XVI.

IT may occasion some wonder, what Sidonius Apollinaris, enumerating in his panegyrick to Majorianus, the several kinds, in which every nation particularly abounded, and with which they supplied the Emperor, who was the object of his panegyrick; says of *Spain*, that it furnished ships :

Sardinia argentum, naves Hispania defert.

This being the case, our Peninsula consequently must have produced great
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quantity of timber to build them. At present it is very scarce. It is manifest it cannot be the fault of the soil, because, that is the same now, as then; the fault must be ascribed to the present inhabitants, who are not so fond of planting, as they were in old times.

But the propensity of the inhabitants to planting is not sufficient, if the ministry does not direct that disposition; and, in order that the ministry should direct it, it is necessary that some rules and laws, founded on mature examination, and on the deliberations of the Board, should be established. This Board should inform itself exactly, not only of the soils proper for the production of such and such kind of trees, but likewise of the situation with respect to the facility of carriage of the timber, to the places where it would be most wanted. For to what purpose would it be, to have good timber, for ship building, on a mountain very remote from the sea, or from a navigable river?

Upon such informations of intelligent people, instructions and proper rules relative to this branch of Agriculture should be formed, and they should be printed and distributed in those parts of the country, where they are proposed to be put in practice; that is, they should comprehend and indicate all the circumstances, conducive to the right raising of those plants, and to their defence and security from bad weather, &c. Finally, the country people and inhabitants of these soils, should be laid under certain obligations to plant, by ordonnances, dictated by prudence and equity, so as that their labour and trouble upon this account, should be sufficiently recompensed by fitting encouragements, or at least by some exemptions from other duties.

S E C T. XVII.

I AM of opinion that there are many erroneous practices in Agriculture. Some
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in one country, some in others, which it would be expedient to amend. One I cannot omit mentioning, as it is very general and hurtful in *Spain*; that is, plowing with Mules. Alonso Herrera has touched this point in his treatise, intitled *El Despertador*, Dial. the 2d, where he proves evidently that the use of these beasts in Agriculture, ought to be condemned, for three reasons. The first, that they are vastly more costly than Oxen. The second, that the ground is never so well plowed by Mules, neither does it yield so good a crop. The third, that these animals are of much less profit, than those of the Ox kind.

As to the first reason, its truth is amply demonstrated in the exact and long calculation the aforesaid Herrera makes of the cost of one and the other, both in the first price, and in the subsequent keeping. The excess in the cost of the food for Mules, is prodigious, without reckoning the shoeing; to this may

be added the consideration, that an ox after having served in the cart and plow what with its flesh and hide, furnishes very near the money that another will cost: Whereas the mule, when past its labour, is only food for crows and kites. Add to all this, that the mule is an animal subject to many more infirmities than an ox, which still augments the cost, and diminishes the utility.

The second reason is founded upon solid and sound experience and philosophy. Mules being inferior in strength to oxen, cannot plow the ground so deep. A pair of oxen will draw the plow, though the share should enter half a yard into the soil, which a pair of mules cannot do, if it goes but twelve inches deep. From the first, three notable advances arise, the first and principal of which is, that as the ox-plow removes and turns over a great quantity of soil, all that mold is penetrated

trated by the wet, when great rains happen to fall, by this means, it retains humidity, sufficient for a long time; so that if a very dry season should follow, the plants will be enabled to endure it, by the assistance of the moisture remaining in the earth. The second is, that the plants imbibe the substance of a larger quantity of mold, by which means, the grain proves fuller and heavier. Herrera says, that he is convinced by experiment, that a bushel of wheat produced on land that has been plowed by oxen, weighs ten pounds more, than another bushel of wheat, that has grown on land, tilled by mules. The third advantage is, that as the grain at sowing, is deeper and better covered with earth, the birds cannot easily get at it, to devour it, as they do, when it lies upon, or near the surface.

The third reason is founded on the profits, which arise from milk, for the nourishment of the labourers, which

is more plentiful, when black cattle are made use of in husbandry, and from the benefits of their dung: insomuch that if this species of stock were not used either in cart or plow, yet, we might, even in that case, reckon the profits of them greater than the expence. I opportunely here recollect that in the history of the Royal academy of sciences for the year 1726, where Mr. De Fontenelle speaks of two instruments for plowing, to be worked by no other force, but that of the wind alone, invented, one by Mr. Guet and the other by Mr. Laffise, he disapproves in general the use of such machines, for this reason, that it is never expedient to give the peasants any excuse for not breeding and rearing as many cattle, as they possibly can; which being so, all those kinds of machines are no saving or gain to them. This reflection of the wise Fontenelle, necessarily supposes, that breeding and rearing of cattle is more profitable, than costly; even though

though they were not used either for cart or plow. The case is quite the contrary in the use of mules, which are of no other profit, but solely for draught, and that profit is dearly paid for, by the great cost of their keeping.

When we thoroughly consider the weight of these reasons, we shall not think Alonso Herrera extravagant in his decision in the place quoted, “ I say
 “ therefore, that the cause of the ruin
 “ of *Spain* has been and is owing to the
 “ neglect of plowing, sowing, carting,
 “ &c. with oxen, and to the having
 “ introduced the use of mules in their
 “ stead, the expences of which, are
 “ great, their labour bad, pestilential,
 “ useless, and very pernicious; and that
 “ of black cattle, good, wholesome,
 “ useful and marvellous, &c.

The force of the above alledged reasons is confirmed by the authority of all the ancients. It is certain that plowing
 with

with mules was unknown to all antiquity. No account of it is found either in sacred or prophane history. We have no motive to think the ancients were in an error, especially when we see the practice of all, or most nations justify that of the antients.

It will be objected to me in the first place in favour of mules, that they plow a greater quantity of ground in less time, being more active and nimble than oxen. I answer to the first, that if they do plow more, they do not plow it so well. Therefore the ground plowed by mules does not yield so good crops, as when plowed by oxen. To this may be added, that the crop may be expected to be better, when oxen are used, because as they plow deeper, a greater quantity of rain has been imbibed to succour the plants in long droughts. I answer to the second, that with respect to the greater dispatch mules make in the plow, nobody is interested

terested but the lazy plowmen, who chuse to finish in one day, what would take two, or three, to do, as it ought to be done; in order that they may take their pleasure in the remainder. Is there not sufficient time to plow with oxen, as much ground, as ought to be sowed? Wherefore then should the publick lose the more abundant crop, which is evidently got by plowing with them? He that has many acres to plow, yokes more beasts, and puts more labourers to the work, and at the end of the year, he reaps three, nay five times, the profit.

In the second place, it will be objected to me, that black cattle cannot be kept in all places for want of sufficient pasture. I answer, that though there is not, yet, that may be procured. In old times, all over *Spain*, they made use of oxen in their plows, therefore there must consequently have been pasture for them. Why should there not be

be the same now? There is but too much land uncultivated in the two *Castilles*, that might be put to this use, and it should always be remembered, that the ox eats of every thing, straw, leaves of trees, &c. But are not numerous herds of cattle bred in the two *Castilles*, about *Benavente*, *Salamanca*, *Avila*, *Talavera*, *Toledo*, *Placencia*, *Harama*, &c. Would it not be better to breed and rear them up for labour, than to massacre them as they do in the market places in their bull fights, sometimes to the loss of men and horses likewise?

Alonso Herrera in his calculation, also avers, that for carriage, and draught of all sorts, the use of oxen is much cheaper, than that of mules, either for cart or waggon. Cheaper, because the beast itself, as well as its food, costs less. More advantageous, because the publick is much interested in the plenty of black cattle, both when they are alive, and after they are dead,

S E C T.

S E C T. XVIII.

FINALLY, I shall observe another error, which is very common, relating to the use of oxen, both in the cart and plow; which is, the yoking them by the horns. It is very sure, that when they are yoked by the neck and breast, as in some parts of *Galicia* is practised, they have more strength, and fatigue themselves less; the consequence of which is, that they do more service and live longer.

S E C T. XIX.

THUS, many such topicks of signal use in Agriculture may be proposed at the board; and many errors rectified. I am of opinion that among the few hints I have mentioned, there is scarce any one, whose utility, singly, independent of the concurrence of the rest, would not greatly answer the expence of such a society, which would certainly
correct

correct all my mistakes, and propose many other means, for the encouragement of Husbandry. Nobody can deny, but that the intention and establishment of this society, in case such a one should be formed, is more comprehensive of many advantages, than that already formed, for the regulation of dealers in cattle.

S E C T. XX.

HAVING finished this discourse, I have received advice from *Madrid*, that by order of his majesty (God preserve him) they are working with great diligence at a canal from the river Xarama with an intent to water a matter of eleven leagues of country, which will be of great use to the wheat and barley crops in that district. This news gives me the greatest pleasure, to think, that the zeal of our monarch, and of the ministers, who have had a share in this idea, or in the execution of so important

tant a work, has anticipated the publication of the hint, I gave about this matter, in the 14th section of the present discourse. God grant that these beginnings may be followed by a happy progress in every thing relative to the improvement of Agriculture. The felicity which will accrue to the Prince and Ministers, from this attention, is more to be envied, than the happiness which they will procure to the nation, for while those at the helm of government are watchful to secure temporal blessings to the subject, they acquire those that are eternal for themselves.

F I N I S.

